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ADVANCES IN MINING, CAPITAL CONSTRUCTION, AND PRODUCTION OF ELECTRICAL EQUIPMENT IN CHINA

T'ui-kuang Hsien-chin ti Sheng-ch'an Ching-yen
(Dissemination of Experiences in Progressive Production)
Peiping, 1952

[Comment: This report summarizes information on methods of mining, of capital construction, and of the production of electrical equipment found in the above-named book, published by the Ministry of Fuel Industry, Central People's Government. The book was compiled from newspaper articles, speeches, and documents published by various government organs of the People's Republic of China.]

A. Mining

1. Hsi-an Mining Administrative Bureau

The Department of Industries, Northeast People's Government, has announced that the Hsi-an Mining Administrative Bureau was able to speed up the construction of vertical mine shafts from 7 meters a month to 51 meters a month. This enables the entire mine building program, including installation of equipment, to be completed within 5 years instead of the 10 years originally planned. Costs for building the mine shafts fell from 32 million yuan to 19 million yuan per meter. Time is saved in the construction of the shafts by lowering a platform into the shaft on which workmen can stand to build the shaft's casing while the shaft is being dug beneath them.

2. Chi-hsi Mining Administrative Bureau

The Ts'ui Kuo-shan Rapid Digging Section of the Chi-hsi Mining Administrative Bureau, by March 1952, had attained a rate of progress in the digging of passageways of over 40 meters a day. The 67-man section has obtained a 40 percent saving in explosive charges and a 45 percent saving in primers. The average rate of advance of this section's diggers is 0.4 meters per day. The unit's efficiency is due for the most part to better labor distribution and a new system of digging. Now, level passageways, inclined passageways, and drifts are dug simultaneously, and workers are given specific assignments instead of being permitted to dig as they pleased in any passageway.

3. Fu-hsin Coal Mine, Northeast Department of Industries

The Ma Wen-chih exploratory drilling section of the Fu-hsin Coal Mine, Northeast Department of Industries, has developed a new "rapid drilling method." With this system, an average of 8.34 meters per day was drilled, and the record for a single day was 21 meters. The 8.34 meters per day is three times the normal rate of advance. Among the most important improvements made by the section are: (1) the old 75-millimeter drill with its eight oblique hard steel points has been replaced by two parallel rows of 16 points; (2) the maximum drilling speed was increased from 120 rpm to 248 rpm, the speed varying according to the type of strata being drilled; (3) labor was distributed more efficiently; and (4) time allotted for the maintenance and repair of equipment was shortened.

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4. North China Coal Mines

The Ta-t'ung, Chiao-tso, Ching-hsi, Yang-ch'üan, and Feng-feng state-operated coal mines in North China are using the Ma Liu-hai rapid excavating method. The method was first announced by the Ministry of Fuel and Industry in January 1952.

The depth of the hole for the charge was increased from 1.1 meters to 1.7 meters, raising the efficiency of the blast and the mining equipment. In digging a passageway 3 meters wide and 1.5 meters high, the Ta-t'ung Mine was able to advance 351 meters in 80 working days. Workers of the Ching-hsi Mine guaranteed a daily rate of advance of 15 meters; however, the loading equipment could not maintain this rate. The Feng-feng Mine was hampered by poor supply coordination, causing periodic work stoppages.

5. No 1 Copper Mine, Northeast Nonferrous Metals Administrative Bureau

The No 1 Copper Mine under the Northeast Nonferrous Metals Administrative Bureau is using a new "wet-type rock drilling method" that protects workers from dust containing silicon dioxide and speeds drilling operations. The mine formerly employed two men to operate each drill, but now needs only one man to watch two drills. The efficiency of the drills has increased 25 percent.

B. Capital Construction

1. The Northeast Department of Industries Construction Planning Company

Through the application of Soviet building methods, the Northeast Department of Industries Construction Planning Company saves 1.5-2 tons of reinforcing steel and 14 cubic meters of concrete per 1,000 square meters of construction work. The company has so far completed plans for nine projects and has saved over 300 cubic meters of concrete and 30 tons of steel reinforcements. The company saved an estimated 700 million yuan when it revised its plans according to Soviet specifications for four projects it had drawn up in 1951 and on which construction had not yet begun.

Originally, 1.3 million yuan per square meter was allotted to the Nonferrous Metals Control Bureau's Industrial College construction project, but under the new construction standards the cost dropped to 1.1 million yuan per square meter.

The Light Industries Control Bureau's expenditures on 15 projects dropped 10-13 percent with the new methods, saving enough money to construct 3,233 square meters of living space for 770 single workers or 4,157 square meters of living space for 130 workers with families, each home housing three persons.

2. 21st Engineering Company

The 21st Engineering Company of the Northeast announced a new "vacuum method" for pouring concrete which permits wooden forms to be dismantled 40 minutes after the pouring and saves 15-20 percent in concrete. On work location No 366, the new method reduced drying time by 75 percent and also reduced the number of wooden forms required by 87 percent. This method increases the concrete's density and its resistance to cold, friction, and decay.

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3. Harbin Engineering Company, Northeast Department of Industries

The Harbin Engineering Company, Northeast Department of Industries has adopted the Soviet "Sha-fu-liu-chin [possibly Zavalishin] two-handed method for applying mortar." Combining the new system with an improved mortar-spreading implement, one man can lay 6,000 bricks during one 9-hour shift, compared to the previous average of only 1,700 bricks in an 8-hour shift. The speed is attained through the utilization of unskilled labor or apprentices to operate the mortar implement and to keep the bricklayer supplied with a steady flow of bricks.

C. Electrical Equipment

Northeast Electrical Plant No 5

Through greater specialization and improved distribution of worker skills, the Northeast Electrical Plant No 5 was able to increase its production of electric motors from 200 a month to 1,200 a month. Whereas formerly, highly trained technicians were required to perform many skilled operations, workers now have very specialized jobs. In addition, they have been assigned according to their capabilities, and not arbitrarily as in the past.

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